

Calling and Life Satisfaction Among Undergraduate Students: Investigating Mediators and Moderators

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Published online: 5 May 2011
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Abstract The present study examined the relation of calling and life satisfaction among a diverse group of undergraduate students. In line with previous research, the presence of a calling weakly correlated with life satisfaction and moderately correlated with meaning in life. Three potential moderators of the calling-life satisfaction relation were tested: religiousness, living one's calling, and core self-evaluations. The relation of calling and life satisfaction was not different based on levels of religiousness or experiences of living one's calling. However, the relation of calling to life satisfaction was stronger for students with low core self-evaluations. Additionally, using a multiple mediation model, academic satisfaction and life meaning were found to fully mediate the calling-life satisfaction relation. Participants more likely to view their career as a calling were more satisfied in life because of attaining greater life meaning and satisfaction within the academic domain. Implications for future research and practice are discussed.

Keywords Calling · Life satisfaction · Life meaning · Well-being

Are people with a calling happier? In his 2002 book, *Authentic Happiness*, Martin Seligman devotes a chapter to work and personal satisfaction, suggesting that, indeed, viewing one's career as a calling is one path to a happier life. As research on calling has expanded over the last 15 years, several studies have explored the relation of calling to well-being. Although calling has consistently been found to relate to life meaning and satisfaction, the strength of these relations has varied from weak to moderate depending on the sample (Bunderson and Thompson 2009; Duffy et al. in press; Duffy and Sedlacek 2010; Steger et al. 2010), and no research has explored why these relations exist. In the present study, we examine both if calling relates to life satisfaction and why and for whom this relation exists. Guided by previous research, we attempt to identify individual traits and characteristics (moderators) that may significantly affect the strength of the relation

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between calling and life satisfaction as well as examine variables that may help explain why this relation exists (mediators).

1 Conceptualizing Calling

Numerous definitions of calling exist in the literature, most of which contain some or all of the following components as they relate to one's career: meaning, purpose, altruism, an external summons, and a prosocial orientation (Dik and Duffy 2009). In an attempt to develop an empirically testable definition of the term, Dik and Duffy (2009) reviewed the literature and pulled together key elements of previous definitions, ultimately defining calling as, "a transcendent summons, experienced as originating beyond the self, to approach a particular life role (in this case work) in a manner oriented toward demonstrating or deriving a sense of purpose or meaningfulness and that holds other-oriented values and goals as primary sources of motivation" (p. 427). More simply, a calling is conceptualized as a meaningful and prosocial career prompted by an external force.

As a single construct, calling represents a sort of "mini-theory" that has not yet been folded into more established theories of vocational behavior or well-being. This is likely due to both a lack of research on the construct (e.g., only about 15 empirical studies have been published to date) as well as a lack of agreement on what calling means (discussed above). Using Dik and Duffy's (2009) definition as a starting point, we suspect that the relation of calling to well-being is best explained by Ryff and Singer's (1998) model of positive human health. Ryff and Singer (1998) propose that living a happy life includes both hedonic and eudemonic behaviors and activities and hypothesize that seeking eudemonic fulfillment may be the best route to enduring happiness. According to Ryff and Singer (1998), a key component of eudemonia is living a life of purpose and meaning. Viewing one's career as a calling represents purpose and meaning within the domain of work. As such, we hypothesize that those with a calling will view their lives as more satisfying, in part, because of this eudemonic trait within the domain of work.

2 Research on Calling and Well-Being

The small, but growing amount of empirical studies on calling have primarily focused on its relation to work (e.g. career commitment, job satisfaction) and well-being outcomes (e.g. life meaning, life satisfaction). Previous articles have reviewed the link of calling and work outcomes (e.g. Duffy et al. 2011; Duffy and Sedlacek 2007), and in this section we highlight the handful of studies that have focused on the links of calling to well-being.

Researchers have studied multiple well-being constructs as they relate to calling. For example, Peterson et al. (2009) studied dispositional zest and found calling to positively correlate with this construct among working adults. Treadgold (1999) found that those working adults who endorse a calling experienced decreased levels of stress and depression. Additionally, higher levels of calling have been associated with greater coping (Oates et al. 2005; Treadgold 1999).

Researchers have also focused on the links of calling to life meaning and satisfaction. Bunderson and Thompson (2009) found a moderate correlation between the sense of a calling and work meaningfulness among zookeepers, and Dik et al. (2008b) found that a sense of calling was moderately correlated with life meaning among college students, with links being more pronounced for those high in religious commitment. More recently, Duffy

and Sedlacek (2010) and Steger et al. (2010) studied college students and each found a weak positive correlation between calling and life satisfaction and a moderate positive correlation between calling and life meaning. The strength and direction of these findings were mirrored in a study with first and third year medical students (Duffy et al. in press). In sum, this handful of eight studies displays a consistent theme: higher levels of calling relate to higher levels of psychological well-being. Yet, to date, little is known empirically about why this relation exists and for whom it may be most pronounced.

3 The Present Study

The present study seeks to address these gaps in the literature by studying the calling-life satisfaction relation in greater depth. Using Ryff and Singer's (1998) theoretical model, and backed by previous research, we hypothesize that viewing one's career as a calling will relate to greater satisfaction with life. Although research has consistently linked these variables, the strength of the relation between calling and life satisfaction has varied from study to study. This suggests that there may be potential moderators in the relation of calling and life satisfaction—that the strength of this relation may differ based on individual characteristics or traits. In the present study, we examine three potential moderators: level of intrinsic religiousness, the degree to which one is currently living their calling, and core self-evaluations.

Throughout the literature, calling has often been tied to an individual's religious faith and has been found to be more prevalent among those who are religious (Dik and Duffy 2009; Hernandez et al. 2011). As such, we hypothesize that religiousness will moderate the calling-life satisfaction link, such that calling will relate more strongly to life satisfaction for those who are intrinsically religious. Previous research has consistently found the link of calling and well-being to be stronger for those who are working (e.g., Bunderson and Thompson 2009; Peterson et al. 2009), likely due to the ability to actually live out their calling. As such, we hypothesize that for undergraduate students, calling will be more strongly related to life satisfaction for those with greater experiences living out their calling. Finally, theorists have suggested that calling is inexorably tied to a strong sense of self—with higher levels of calling being linked to more positive self-views (Elangovan et al. 2010). As such, we hypothesize that the link between calling and life satisfaction will be stronger for students who have higher core self-evaluations.

We also sought to explore how calling links to life satisfaction. Drawing on numerous studies which have linked calling to life meaning (e.g., Duffy and Sedlacek 2010; Steger et al. 2010), and life meaning to life satisfaction (e.g., Steger et al. 2006), we hypothesize that calling relates to greater life satisfaction among undergraduate students, in part, because it promotes greater meaning in life. Additionally, we explored the mediating role of academic satisfaction in the calling-life satisfaction link. Based on previous research linking calling and academic satisfaction (Duffy et al. in press), and academic satisfaction and life satisfaction (e.g., Lent et al. 2009; Singley et al. 2010), we hypothesize that the link of calling to life satisfaction is, in part, due to its relation to satisfaction within the academic domain. These hypotheses will be tested in a multiple mediation model to explore the unique ability for each to function as a mediator while accounting for other model variables.

4 Method

4.1 Participants

A total of 472 participants completed this study, with a mean age of 18.67 years ($SD = 1.80$). All participants were enrolled at a large public university located within a small city in the southeastern United States. Of this group, 41.1% were male ($N = 194$) and 58.9% were female ($N = 278$); 61.1% ($N = 324$) identified as white, 8.5% as African American ($N = 45$), 8.7% as Asian American ($N = 46$), 4.2% as Caribbean ($N = 22$), 3.8% as Cuban ($N = 20$), 3.0% as South American ($N = 16$), 2.8% as Puerto Rican ($N = 15$), 2.3% as Central American ($N = 12$), 1.9% as American Indian ($N = 10$), 1.5% as Middle Eastern ($N = 8$), 1.1% as Pacific Islander ($N = 6$), .4% as Mexican ($N = 2$), and 1.5% as Other ($N = 8$). The five most represented majors were Biology (11.2%; $N = 53$), Psychology (10.8%; $N = 51$), Nursing (7.6%; $N = 36$), Health Science (7.6%; $N = 36$), and Undeclared (7.2%; $N = 34$).

4.2 Instruments

4.2.1 Calling

The Calling and Vocation Questionnaire (CVQ; Dik et al. 2008a), which was developed based on Dik and Duffy's (2009) three part definition of calling, was administered to assess the presence of calling. The CVQ is a 24-item questionnaire that assesses both the presence of (e.g. "My work helps me live out my life's purpose," "Making a difference for others is the primary motivation in my career") and search for (e.g. "I am trying to find a career that ultimately makes the world a better place," "I yearn for a sense of calling in my career") a career calling. In the current study, only the 12-item presence scale was used. Participants were asked to respond on a 4-point scale ranging from *not at all true of me* to *absolutely true of me*. In their instrument development study, Dik et al. (2008a, b) found an internal consistency of $\alpha = .89$ and a 1 month test–retest reliability of $r = .75$. In the current study, the estimated internal consistency of the presence subscale was $\alpha = .89$.

4.2.2 Life Satisfaction

The Satisfaction with Life Scale (Diener et al. 1985) was administered to measure global satisfaction with life. Example items include: "The conditions of my life are excellent," and "So far I have gotten the important things I want in life." Participants answered items on a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*. In the instrument development study, the authors reported good internal consistency ($\alpha = .87$) and a two week test–retest reliability ($r = .82$) (Diener et al. 1985). For the current study, the estimated internal consistency reliability of this scale was $\alpha = .87$.

4.2.3 Life Meaning

The Meaning in Life Questionnaire (MLQ; Steger et al. 2006) was used to measure participants' current level of life meaning. The MLQ contains 10 items and measures both the presence of and the search for life meaning (e.g. "I understand my life's meaning;" "I am always looking to find my life's purpose"); only the 5-item presence subscale was used

in the present study. Participants answered items on a 7-point Likert scale ranging from *absolutely untrue* to *absolutely true*. In the instrument development study, internal consistency reliabilities ranged from $\alpha = .81$ to $\alpha = .92$, with good one month test–retest reliability ($r = .70$). In the present study, the estimated internal consistency reliability of the presence subscale was $\alpha = .87$.

4.2.4 Core Self-Evaluations

The Core Self-Evaluations Scale (CSES) was administered to assess the sense of self. The CSES is a 12-item measure that addresses four central traits: self-esteem, global self-efficacy, neuroticism, and locus of control (Judge et al. 2003). Participants responded to items on a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*. Sample items include, “Sometimes I feel depressed” and “I determine what will happen in my life.” In the instrument development study, the scale was found to have good internal consistency reliabilities, ranging from $\alpha = .81$ to $\alpha = .87$, as well as a 1 month test–retest reliability of $r = .81$. In the present study, the estimated internal consistency reliability was $\alpha = .85$.

4.2.5 Academic Satisfaction

A 7-item measure of academic satisfaction was administered to assess satisfaction with one’s current major and academic life (Lent et al. 2007). Example items include, “I feel satisfied with the decision to major in my intended field” and “I am generally satisfied with my academic life.” Participants answered items on a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*. In the original study, the scale was found to have good internal consistency ($\alpha = .94$). In the present study, the estimated internal consistency reliability was $\alpha = .91$.

4.2.6 Intrinsic Religiousness

Developed by Gorsuch and McPherson (1989), the 8-item, revised intrinsic religiousness scale was used to measure participants’ level of religiousness. Intrinsic religiousness refers to a personal commitment to religion regardless of the extrinsic social or individual returns that may come with being religious. Both religiousness and spirituality have been linked to well-being (Hill and Pargament 2003), with the distinction being that religiousness refers to a specific religion, whereas spirituality can refer to a wide variety of concepts, such as a relationship with higher power/s or a feeling of connection to the universe.

For the current study, the three negatively worded items from the revised intrinsic religiousness scale did not load sufficiently on the entire scale. Thus, only the five positively worded items were used. Example items include, “I will try hard to live all my life according to my religious beliefs” and “My whole approach to life is based on my religion.” Gorsuch and McPherson (1989) found the 8-item scale to be internally consistent ($\alpha = .83$). The scale has been used in a slew of studies over the last 20 years, and has positively correlated with other scales of religiousness and spirituality (Gorsuch and McPherson 1989; Salsman et al. 2005; Worthington et al. 2003). In the current study, the five-item scale had an estimated internal consistency reliability of $\alpha = .94$.

4.2.7 Living One's Calling

An author developed, 6-item scale was administered to assess the degree to which participants currently live the career to which they are called. The six items were as follows: "I have regular opportunities to live out my calling," "I am currently working in a job that closely aligns with my calling," "I am consistently living out my calling," "I am currently engaging in activities that align with my calling," "I am living out my calling right now in my job," and "I am working in the job to which I feel called." Participants were asked to answer each item on a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*; *not applicable* was also included as an option for participants who had no sense of a calling. The estimated internal consistency reliability of this scale was $\alpha = .85$.

4.3 Procedure

Participants were recruited through the psychology participant pool and compensated with course credit. Participants had the opportunity to complete the survey online at any point during the Fall 2010 semester.

5 Results

5.1 Preliminary Analyses

Descriptive statistics and correlations were computed for all seven variables (Table 1). Calling weakly to moderately correlated with life satisfaction and the proposed mediators and moderators: life satisfaction ($r = .22$), life meaning ($r = .44$), academic satisfaction ($r = .36$), core self-evaluations ($r = .22$), living one's calling ($r = .32$), and intrinsic religiousness ($r = .38$). These significant relations support the testing of moderation and mediation analyses.

5.2 Moderation

Following the guidelines proposed by Frazier et al. (2004), we explored whether intrinsic religiousness, living one's calling, and core self-evaluations moderated the calling and life

Table 1 Descriptive information and correlations of calling and hypothesized moderators and mediators

	1	2	3	4	5	6	7
1. Presence of calling	–						
2. Life satisfaction	.22	–					
3. Life meaning	.44	.39	–				
4. Academic satisfaction	.36	.40	.42	–			
5. Core self-evaluations	.22	.43	.47	.47	–		
6. Living calling	.32	.24	.31	.29	.12	–	
7. Intrinsic religiousness	.38	.24	.32	.15	.21	.17	–
<i>M</i>	31.44	25.97	23.82	26.31	41.12	23.96	21.56
<i>SD</i>	7.43	5.67	6.01	5.50	6.99	7.37	8.10

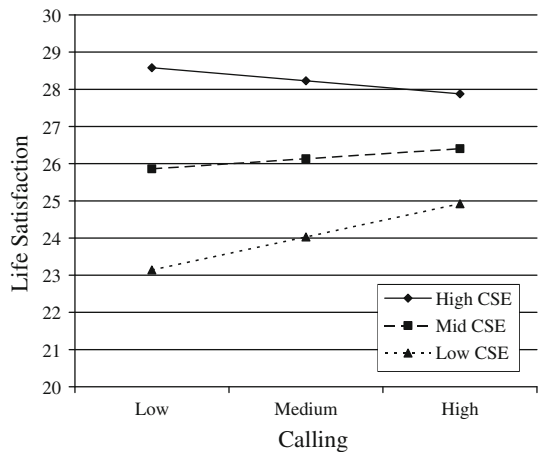
All correlations significant at the $p < .05$ value

Table 2 Hierarchical regression analysis examining moderators in the relation of calling and life satisfaction

	<i>B</i>	Beta	SE <i>B</i>	<i>R</i>	<i>R</i> ²	<i>R</i> ² Δ	<i>F</i>
<i>Step 1</i>							
Calling	.05	.27	.32				
Intrinsic religiousness*	.13	.74	.30				
Living calling*	.15	.86	.30				
Core self-evaluations*	.37	2.07	.28	.47	.24		25.04*
<i>Step 2</i>							
Calling × religiousness	.05	.25	.28				
Calling × living calling	−.02	−.11	.27				
Calling × core self-evaluations*	−.11	−.62	.28	.50	.25	.01	15.24*

* *p* < .05

Fig. 1 Core self-evaluations as a moderator in the relation of calling and life satisfaction



satisfaction relation. As seen in Table 2, normalized scores for calling and each of the hypothesized moderators were included in Step 1, and in Step 2 the interaction of calling and each of the three moderators were included. Of the three proposed moderators, only core self-evaluations was found to significantly affect the relation between calling and life satisfaction. Namely, calling was more strongly related to life satisfaction for participants who had lower core self-evaluations. The slopes of this interaction effect are depicted in Fig. 1.

5.3 Mediation

A multiple mediation model testing the degree to which life meaning and academic satisfaction mediate the relation of calling and life satisfaction was examined. Like traditional mediation methods (e.g. Frazier et al. 2004), a multiple mediation model allows researchers to explore if the relation between two variables is explained in part by a third variable, or mediator. However, a multiple mediation model provides the added benefit of exploring more than one mediator at a time, therein providing effect values for each model

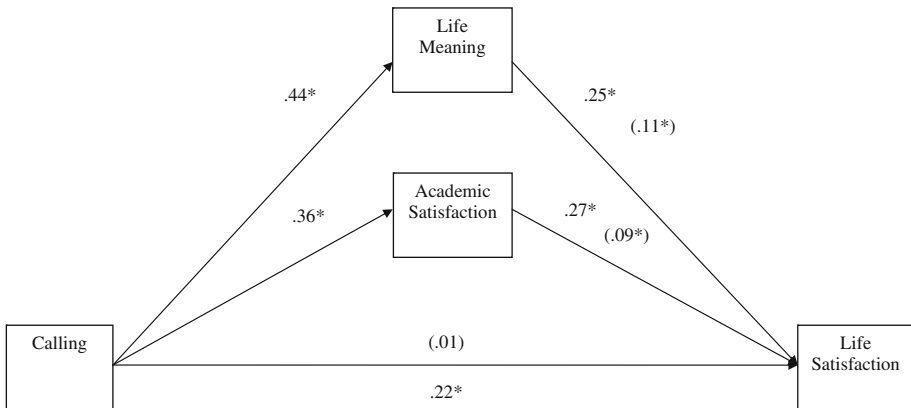


Fig. 2 Multiple mediator model examining the direct and indirect relation of calling and life satisfaction. Numbers in parentheses represent indirect effects for mediator variables and direct effect for the relation of calling to life satisfaction after accounting for mediator variables. $*p < .01$

path while accounting for the other model paths. Using the multiple mediation macro developed by Preacher and Hayes (2008), we computed the direct and indirect path coefficients of the relation of calling and life satisfaction, as mediated by academic satisfaction and life meaning, using normalized values. These path coefficients refer to the regression weights in the relation of the independent and dependent variable.

As seen in Fig. 2, calling had significant direct paths to each mediator variable: academic satisfaction (.36) and life meaning (.44), as well as life satisfaction (.22). Each of the mediators, life meaning (.25) and academic satisfaction (.27), had significant direct paths to life satisfaction. Additionally, calling was found to have significant indirect effects on life satisfaction as mediated through life meaning (.11) and academic satisfaction (.09). After including the two mediators in the model, the relation of calling to life satisfaction was completely diminished (.01, non-significant), indicating full mediation by life meaning and academic satisfaction. The total model was significant ($F = 26.92$, $p < .001$) and accounted for 20% of the variance in life satisfaction.

To further examine the significance of the indirect effects, we followed the guidelines proposed by Shrout and Bolger (2002) and created 10,000 bootstrap samples using the Preacher and Hayes (2008) multiple mediation macro. Across all 10,000 samples, 95% confidence intervals were computed for the upper and lower potential limits of these indirect effects. Shrout and Bolger (2002) recommend exploration of the confidence intervals to determine the significance of the indirect effects. If zero is not included in the range of the confidence intervals, the indirect effect is said to be significant at the $p < .05$ level. Support was found for each of the proposed indirect effects: calling and life satisfaction as mediated by life meaning (SE = .032, CI = .05–.18) and calling and life satisfaction as mediated by academic satisfaction (SE = .028, CI = .05–.16).

6 Discussion

The primary goal of this study was to provide a more thorough examination of how calling relates to life satisfaction among undergraduate students. At a basic level, our correlational findings mirrored those from previous research (Duffy et al. in press; Duffy and Sedlacek

2010; Steger et al. 2010): feeling called to a particular career is weakly linked to feeling happier in life and moderately linked to viewing one's life as meaningful. However, it is the mediation and moderation results that offer new insight into how and why calling links to life satisfaction.

Perhaps most intriguing and surprising are the findings that religiousness and living one's calling did not moderate the calling-life satisfaction link, and core self-evaluations did, but in the opposite direction than hypothesized. In sum, none of our moderation hypotheses were supported. First, although calling was moderately correlated with religiousness, being religious did not significantly affect the relation of calling and life satisfaction. Thus, despite the fact that calling is often viewed in non-secular terms, it appears that, at least in the current study, it is just as beneficial to have a calling for those with low or high levels of religiousness. Second, the degree to which students are currently living out their calling also does not appear to affect the relation between calling and well-being. This finding may be due to the utilization of a student sample. Even though a substantial portion of our sample felt they were living out their calling (on the living one's calling instrument, the overall mean score of 24 was in the exact middle of the possible scale score), most are likely not working in jobs that will be their ultimate calling and their primary employment is that of a college student. Understanding how living one's calling functions among working adult populations may prove more promising, especially as many working adults may have a calling, but are not able to work in jobs that fulfill it.

Third, the moderation finding regarding core self-evaluations deserves some attention. Consider Fig. 1 for a moment. At each point, participants falling into the medium and high core self-evaluation groups have higher life satisfaction and calling scores relative to the lower core self-evaluation group. However, moderation is not concerned with group differences, but slope differences. Having a calling predicted greater increases in life satisfaction for students with low core self-evaluations relative to students with moderate or high core self-evaluations. Though causal inferences cannot be drawn, this result may suggest that having a calling can buffer the impact that low core self-evaluations have on life satisfaction; if the sense of self is low, having a calling can be one route to greater life satisfaction. This intriguing finding will be in great need of future research.

Finally, we turn to the mediation results. Academic satisfaction and meaning in life were found to fully explain the link between calling and well-being. Therefore, participants with callings experienced higher levels of life satisfaction due to higher levels of academic satisfaction and meaning in their lives. The life meaning result is in line with the propositions made by Ryff and Singer (1998) and partially mirrors empirical findings by Steger et al. (2010), who found meaning in life to mediate the calling-psychological well-being link. Though we cannot determine the direction of these relations, calling may facilitate a general sense of purpose in life that may in turn lead to greater life satisfaction. The finding that academic satisfaction serves as a significant mediator (even after accounting for life meaning) indicates that, perhaps, calling can lead to satisfaction via positive feelings about both one's personal and academic life. This finding speaks to the importance of viewing calling as potentially beneficial to an individual's personal and vocational development.

7 Limitations and Future Directions

The results and findings of this study need to be considered in light of a number of limitations, many of which may be avenues for future research. First and foremost, this study was cross sectional, thus precluding any causal inferences based on the analyses

utilized. To date, no published studies have looked at calling over time, and these are critically important for the future of this research area. Second, our sample was a young, undergraduate population. Though calling is a relevant construct for young populations (Duffy and Sedlacek 2010), it may manifest itself differently with older, working populations. This may be especially true when trying to understand how actually living one's calling relates to positive outcomes. Third, the present study focused only on religiousness and not on spirituality. Although spirituality tends to be a more ambiguous term within the literature, future research might investigate if calling links to happiness differently for those who are more spiritual in nature.

8 Conclusion

The current study offers a building block to research exploring the link between feeling called to one's career and life satisfaction. Calling neatly bridges the fields of vocational psychology and positive psychology as a construct that can be tied to one's career satisfaction and one's greater life fulfillment. Our results mirror this bridge, as a relatively equal proportion of the variance in the link between calling and life satisfaction was accounted for by life meaning (a central variable in positive psychology) and academic satisfaction (a central variable in vocational psychology). We suggest that researchers continue to explore the beneficial results of having a calling in each of these domains, and like the current study, conduct research that explores the potentially complex interrelations of calling, life meaning, and satisfaction with school, work, and life.

Additionally, we hope that the results of this study may add to the literature on how calling can be incorporated into counseling and intervention (e.g. Dik et al. 2009). Namely, those working with college students may find value in the knowledge that having a calling is related to greater life satisfaction, life meaning, and academic satisfaction. As such, when performing vocational or well-being interventions with students, especially those who are considering various career paths, it may be beneficial to conduct exercises that get students to think about what they are called to do. These types of exercises may give students opportunities to explore what this construct means to them and how living one's calling may lead to a more fulfilling personal and professional life.

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